UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,112	01/10/2002	Messaoud Benantar	AUS920010943US1	2371

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HAMILTON & TERRILE, LLP
IBM Austin
P.O. BOX 203518
AUSTIN, TX 78720

EXAMINER
CHEN, SHIN HON

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/045,112	BENANTAR, MESSAOUD
	Examiner	Art Unit	
	SHIN-HON CHEN	2131	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>14 February 2008</u>.

2a)☒ This action is **FINAL**.　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-30</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-30</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>1/10/02</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some *　c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)　　Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-30 have been examined.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Oorschot et

al. U.S. Pat. No. 6134550 (hereinafter VO).

4.   As per claim 1, VO discloses a method for processing digital certificates within a data

processing system, the method comprising: determining a set of trust relations between a set of

certificate authorities (CAs) in a trust web (VO: column 4 lines 57-63); representing the set of

trust relations in an adjacency matrix, wherein a cell in the adjacency matrix corresponds to a

pair of certificate authorities (VO: column 4 lines 59-63 and figures 7a and 7b); performing a

transitive closure computation on the adjacency matrix to generate a set of inter-CA trust path

indicators that represent whether a trust path exists between a pair of certificate authorities (VO:

column 4 lines 52-57); and performing an all-pairs-shortest-paths computation on the adjacency

matrix to generate multiple sets of shortest trust paths between the certificate authorities (VO:

column 4 lines 52-57).

5.   As per claim 2, VO discloses the method of claim 1. VO further discloses initiating a

secure communication with a requester; receiving a digital certificate for the requester; and

validating the digital certificate in accordance with an inter-CA trust path indicator and/or a

shortest trust path (VO: column 5 lines 14-25).

6.   As per claim 3, VO discloses the method of claim 2. VO further discloses wherein the

digital certificate is formatted according to X.509 standards (VO: figure 3 and column 6 line 22).

7.   As per claim 4-9, claims 4-9 encompass the same scope as claims 1-3. Therefore, claims

4-9 are rejected based on the same reasons set forth above in rejecting claims 1-3.

8.   As per claim 10, VO discloses a method for operating certificate authorities within a data

processing system, the method comprising: establishing at a first certificate authority (CA) a trust

relation with a second certificate authority (VO: column 5 lines 16-24); and sending a trust

relation update message to a central trust web agent, wherein the central trust web agent

processes trust relation information for a set of certificate authorities within a trust web (VO:

column 5 lines 53-61 and column 6 lines 1-11).

9.   As per claim 11, VO discloses the method of claim 10. VO further discloses receiving at

the first certificate authority from the central trust web agent a set of inter-CA trust path

indicators that represent whether a trust path exists between the first certificate authority and

other certificate authorities in the trust web (VO: column 9 lines 45-47); and receiving at the first

certificate authority from the central trust web agent a set of shortest trust paths between the first

certificate authority and other certificate authorities in the trust web (VO: column 5 lines 62-67).

10.   As per claim 12, VO discloses the method of 11. VO further discloses initiating a secure

communication with a requester (VO: column 5 lines 14-25); receiving a digital certificate for

the requester; and validating the digital certificate in accordance with an inter-CA trust path

indicator and/or a shortest trust path (VO: column 11 line 61 – column 12 line 14).

11.   As per claim 13, VO discloses the method of claim 12. VO further discloses wherein the

digital certificate is formatted according to X.509 standards (VO: figure 3 and column 6 line 22).

12.   As per claims 14-21, claims 14-21 encompass the same scope as claims 10-13. Therefore,

claims 14-21 are rejected based on the same reasons set forth above in rejecting claims 10-13.

13.   As per claim 22, VO discloses a method for operating certificate authorities within a data

processing system, the method comprising: receiving at a central trust web agent from a

certificate authority (CA) a trust relation update message, wherein the central trust web agent

processes trust relation information for a set of certificate authorities within a trust web, and

wherein the trust relation update message indicates a change in a set of trust relations for the

certificate authority (VO: column 5 lines 54-57 and column 7 line 62 – column 8 line 13); and

modifying a set of trust relations for the set of certificate authorities within the trust web based

on an indicated request in the trust relation update message (VO: column 5 lines 54-57 and
column 7 line 62 – column 8 line 13).

14.   As per claim 23, VO discloses the method of claim 22. VO further discloses sending to
the certificate authority from the central trust web agent a set of inter-CA trust path indicators
that represent whether a trust path exists between the certificate authority and other certificate
authorities in the trust web (VO: column 9 lines 45-47); and sending to the certificate authority
from the central trust web agent a set of shortest trust paths between the certificate authority and
other certificate authorities in the trust web (VO: column 5 lines 62-67).

15.   As per claim 24, VO discloses the method of claim 22. VO further discloses representing
the set of trust relations in an adjacency matrix, wherein a cell in the adjacency matrix
corresponds to a pair of certificate authorities (VO: column 4 lines 59-63 and figures 7a and 7b);
performing a transitive closure computation on the adjacency matrix to generate a set of inter-CA
trust path indicators that represent whether a trust path exists between a pair of certificate
authorities (VO: column 4 lines 52-57); and performing an all-pairs-shortest-paths computation
on the adjacency matrix to generate multiple sets of shortest trust paths between the certificate
authorities (VO: column 4 lines 52-57).

16.   As per claim 25-30, claims 25-30 encompass the same scope as claims 22-24. Therefore,
claims 25-30 are rejected based on the same reasons set forth above in rejecting claims 22-24.

Response to Arguments

17.   Applicant's arguments filed on 2/14/08 have been fully considered but they are not
persuasive.

Regarding applicant's remarks, applicant mainly argues that the prior art of record does
not disclose "adjacency matrix", "transitive closure computation on the adjacency matrix", and
"an all-pairs-shortest-paths computation". However, the examiner disagrees. Oorschot reference
discloses computing shortest path of all certificate authority in transitive adjacency matrix
(Oorschot: column 4 lines 64-67 and figures 7a and 7b). Therefore, applicant's argument is
traversed.

Conclusion

18.   The prior art made of record and not relied upon is considered pertinent to applicant's
disclosure.

Weeks et al. U.S. Pub. No. 20020087859 discloses trust management systems and
method in which certificate path is discovered and reduced.

19.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time
policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within TWO
MONTHS of the mailing date of this final action and the advisory action is not mailed until after
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Shin-Hon Chen whose telephone number is (571) 272-3789. The

examiner can normally be reached on Monday through Friday 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ayaz R. Sheikh/   Shin-Hon Chen
Supervisory Patent Examiner, Art Unit 2131   Examiner
                                                        Art Unit 2131

SC